Correspondence

Echocardiography

TO THE EDITOR: In a recent article by Chou and Amidon regarding the noninvasive evaluation of patients for coronary artery disease,[1] the authors recommended radionuclide scintigraphy with exercise or pharmacologic stress in patients with abnormal baseline electrocardiogram results, suspected false-positive exercise treadmill test results, or the inability to exercise. Stress echocardiography is relegated to patients with poor tolerance for exercise or severe airway disease, or both.

Stress echocardiography is a well-validated modality with more than 15 years of published data in the noninvasive evaluation of coronary artery disease. We concur with the authors' comment that the test is operator dependent but would add that this also applies to radionuclide scintigraphy to the same extent. As stated in the article, stress echocardiography is as sensitive and specific as stress radionuclide scintigraphy, both for pharmacologic stress and exercise. We would like to point out the following advantages of stress echocardiography versus radionuclide scintigraphy:

- Echocardiography provides information regarding ventricular contraction, chamber dimensions, and valvular function. Echocardiography is unique in the ability to detect occult critical aortic stenosis, a lesion commonly regarded as a contraindication to any stress study. Other causes for exercise intolerance are also established, such as mitral valve disease or pulmonary hypertension. These diagnoses cannot be made by radionuclide scintigraphy;
- Rapid performance and interpretation, typically in 60 minutes or less compared with four hours or more of delayed views and image processing for radionuclide scintigraphy studies;
- Similar ability as radionuclide scintigraphy to detect hibernating myocardium using dobutamine echocardiography;
- Favorable cost profile compared with radionuclide scintigraphy—stress echo is a third to a half the cost of radionuclide scintigraphy. In the era of cost containment, this reason alone should be sufficient;
- Stress echo does not involve any radiation; and
- Exercise echo is noninvasive and does not require any intravenous access.

With the added benefits of stress echocardiography over radionuclide scintigraphy, it is unclear to us why Chou and Amidon recommend radionuclide scintigraphy as the test of choice for the multiple scenarios listed in their article.

We suggest that stress echocardiography should be the first noninvasive test done for many patients for the diagnosis and assessment of coronary artery disease in view of its superior accuracy over treadmill electrocardiography and its many advantages over radionuclide scintigraphy.

EDWARD E. ABDULLAH, MD
CHARLES POLLICK, MD
Good Samaritan Hospital
616 S Witmer St
Los Angeles, CA 90017

REFERENCE

1. Chou TM, Amidon TM: Evaluating coronary artery disease noninvasively—Which test for whom? West J Med 1994; 161:173-180

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Drs Amidon and Chou Respond

TO THE EDITOR: Drs Abdullah and Pollick make many valid and appropriate points. They comment that echocardiography provides additional information, including ventricular and valvular function. They also note that echocardiography can be done rapidly and does not involve radiation. We agree with all of these points and mentioned them in our article. In centers that have expertise in doing exercise echocardiography and in patients whose echocardiographic images are of good quality, stress echocardiography is a viable alternative to stress scintigraphic imaging.

THOMAS M. AMIDON, MD
TONY M. CHOU, MD
Cardiology Division
Department of Medicine
University of California,
San Francisco, School of Medicine
San Francisco, CA 94143-0424

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